#14

SEQUENCE LISTING

<110> YU, LEI

<120> MU OPIOID RECEPTOR: COMPOSITIONS AND METHODS

<130> INDA:002USD1

<140> 09/841,720
<141> 2001-04-24

<150> 08/120,601
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<170> PatentIn Ver. 2.1

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gctgtgagag gaagaggctg gggcgcgtgg aacccgaaaa gtctgagtgc tctcagttac 180

agcctaccta gtccgcagca ggccttcagc acc atg gac agc agc acc ggc cca 234
Met Asp Ser Ser Thr Gly Pro
1 5

ggg aac acc agc gac tgc tca gac ccc tta gct cag gca agt tgc tcc 282
Gly Asn Thr Ser Asp Cys Ser Asp Pro Leu Ala Gln Ala Ser Cys Ser
10 15 20

cca gca cct ggc tcc tgg ctc aac ttg tcc cac gtt gat ggc aac cag 330
Pro Ala Pro Gly Ser Trp Leu Asn Leu Ser His Val Asp Gly Asn Gln
25 30 35

tcc gat cca tgc ggt ctg aac cgc acc ggg ctt ggc ggg aac gac agc 378
Ser Asp Pro Cys Gly Leu Asn Arg Thr Gly Leu Gly Gly Asn Asp Ser
40 45 50 55

ctg tgc cct cag acc ggc agc cct tcc atg gtc aca gcc att acc atc 426
Leu Cys Pro Gln Thr Gly Ser Pro Ser Met Val Thr Ala Ile Thr Ile
60 65 70

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atg gcc ctc tac tct atc gtg tgt gta gtg ggc ctc ttc gga aac ttc   474
Met Ala Leu Tyr Ser Ile Val Cys Val Val Gly Leu Phe Gly Asn Phe
             75                  80                  85

ctg gtc atg tat gtg att gta aga tac acc aaa atg aag act gcc acc   522
Leu Val Met Tyr Val Ile Val Arg Tyr Thr Lys Met Lys Thr Ala Thr
         90                  95                 100

aac atc tac att ttc aac ctt gct ctg gca gac gcc tta gcg acc agt   570
Asn Ile Tyr Ile Phe Asn Leu Ala Leu Ala Asp Ala Leu Ala Thr Ser
    105                 110                 115

aca ctg ccc ttt cag agt gtc aac tac ctg atg gga aca tgg ccc ttc   618
Thr Leu Pro Phe Gln Ser Val Asn Tyr Leu Met Gly Thr Trp Pro Phe
120                 125                 130                 135

gga acc atc ctc tgc aag atc gtg atc tca ata gat tac tac aac atg   666
Gly Thr Ile Leu Cys Lys Ile Val Ile Ser Ile Asp Tyr Tyr Asn Met
                140                 145                 150

ttc acc agc ata ttc acc ctc tgc acc atg agc gtg gac cgc tac att   714
Phe Thr Ser Ile Phe Thr Leu Cys Thr Met Ser Val Asp Arg Tyr Ile
            155                 160                 165

gct gtc tgc cac cca gtc aaa gcc ctg gat ttc cgt acc ccc cga aat   762
Ala Val Cys His Pro Val Lys Ala Leu Asp Phe Arg Thr Pro Arg Asn
        170                 175                 180

gcc aaa atc gtc aac gtc tgc aac tgg atc ctc tct tct gcc atc ggt   810
Ala Lys Ile Val Asn Val Cys Asn Trp Ile Leu Ser Ser Ala Ile Gly
    185                 190                 195

ctg cct gta atg ttc atg gca acc aca aaa tac agg cag ggg tcc ata   858
Leu Pro Val Met Phe Met Ala Thr Thr Lys Tyr Arg Gln Gly Ser Ile
200                 205                 210                 215

gat tgc acc ctc acg ttc tcc cac cca acc tgg tac tgg gag aac ctg   906
Asp Cys Thr Leu Thr Phe Ser His Pro Thr Trp Tyr Trp Glu Asn Leu
                220                 225                 230

ctc aaa atc tgt gtc ttt atc ttc gct ttc atc atg ccg atc ctc atc   954
Leu Lys Ile Cys Val Phe Ile Phe Ala Phe Ile Met Pro Ile Leu Ile
            235                 240                 245

atc act gtg tgt tac ggc ctg atg atc tta cga ctc aag agc gtt cgc   1002
Ile Thr Val Cys Tyr Gly Leu Met Ile Leu Arg Leu Lys Ser Val Arg
        250                 255                 260

atg cta tcg ggc tcc aaa gaa aag gac agg aat ctg cgc agg atc acc   1050
Met Leu Ser Gly Ser Lys Glu Lys Asp Arg Asn Leu Arg Arg Ile Thr
    265                 270                 275

cgg atg gtg ctg gtg gtc gtg gct gta ttt atc gtc tgc tgg acc ccc   1098
Arg Met Val Leu Val Val Val Ala Val Phe Ile Val Cys Trp Thr Pro
```

B1 Cont.

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280                 285                 290                 295

atc cac atc tac gtc atc atc aaa gcg ctg atc acg att cca gaa acc   1146
Ile His Ile Tyr Val Ile Ile Lys Ala Leu Ile Thr Ile Pro Glu Thr
                300                 305                 310

aca ttt cag acc gtt tcc tgg cac ttc tgc att gct ttg ggt tac acg   1194
Thr Phe Gln Thr Val Ser Trp His Phe Cys Ile Ala Leu Gly Tyr Thr
            315                 320                 325

aac agc tgc ctg aat cca gtt ctt tac gcc ttc ctg gat gaa aac ttc   1242
Asn Ser Cys Leu Asn Pro Val Leu Tyr Ala Phe Leu Asp Glu Asn Phe
        330                 335                 340

aag cga tgc ttc aga gag ttc tgc atc cca acc tcg tcc acg atc gaa   1290
Lys Arg Cys Phe Arg Glu Phe Cys Ile Pro Thr Ser Ser Thr Ile Glu
    345                 350                 355

cag caa aac tcc act cga gtc cgt cag aac act agg gaa cat ccc tcc   1338
Gln Gln Asn Ser Thr Arg Val Arg Gln Asn Thr Arg Glu His Pro Ser
360                 365                 370                 375

acg gct aat aca gtg gat cga act aac cac cag cta gaa aat ctg gag   1386
Thr Ala Asn Thr Val Asp Arg Thr Asn His Gln Leu Glu Asn Leu Glu
                380                 385                 390

gca gaa act gct cca ttg ccc taactgggtc tcacaccatc cagaccctcg      1437
Ala Glu Thr Ala Pro Leu Pro
            395

ctaagcttag aggccgccat ctacgtggaa tcaggttgct gtcagggtgt gtgggaggct 1497

ctggtttcct gagaaaccat ctgatcctgc attcaaagtc attcctctct ggctacttca 1557

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             20                  25                  30

Ser His Val Asp Gly Asn Gln Ser Asp Pro Cys Gly Leu Asn Arg Thr
         35                  40                  45
```

Gly Leu Gly Gly Asn Asp Ser Leu Cys Pro Gln Thr Gly Ser Pro Ser
50 55 60

Met Val Thr Ala Ile Thr Ile Met Ala Leu Tyr Ser Ile Val Cys Val
65 70 75 80

Val Gly Leu Phe Gly Asn Phe Leu Val Met Tyr Val Ile Val Arg Tyr
85 90 95

Thr Lys Met Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu Ala Leu
100 105 110

Ala Asp Ala Leu Ala Thr Ser Thr Leu Pro Phe Gln Ser Val Asn Tyr
115 120 125

Leu Met Gly Thr Trp Pro Phe Gly Thr Ile Leu Cys Lys Ile Val Ile
130 135 140

Ser Ile Asp Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr Leu Cys Thr
145 150 155 160

Met Ser Val Asp Arg Tyr Ile Ala Val Cys His Pro Val Lys Ala Leu
165 170 175

Asp Phe Arg Thr Pro Arg Asn Ala Lys Ile Val Asn Val Cys Asn Trp
180 185 190

Ile Leu Ser Ser Ala Ile Gly Leu Pro Val Met Phe Met Ala Thr Thr
195 200 205

Lys Tyr Arg Gln Gly Ser Ile Asp Cys Thr Leu Thr Phe Ser His Pro
210 215 220

Thr Trp Tyr Trp Glu Asn Leu Leu Lys Ile Cys Val Phe Ile Phe Ala
225 230 235 240

Phe Ile Met Pro Ile Leu Ile Ile Thr Val Cys Tyr Gly Leu Met Ile
245 250 255

Leu Arg Leu Lys Ser Val Arg Met Leu Ser Gly Ser Lys Glu Lys Asp
260 265 270

Arg Asn Leu Arg Arg Ile Thr Arg Met Val Leu Val Val Val Ala Val
275 280 285

Phe Ile Val Cys Trp Thr Pro Ile His Ile Tyr Val Ile Ile Lys Ala
290 295 300

Leu Ile Thr Ile Pro Glu Thr Thr Phe Gln Thr Val Ser Trp His Phe
305 310 315 320

Cys Ile Ala Leu Gly Tyr Thr Asn Ser Cys Leu Asn Pro Val Leu Tyr
325 330 335

B1 Cont

```
Ala Phe Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Glu Phe Cys Ile
          340                 345                 350

Pro Thr Ser Ser Thr Ile Glu Gln Gln Asn Ser Thr Arg Val Arg Gln
        355                 360                 365

Asn Thr Arg Glu His Pro Ser Thr Ala Asn Thr Val Asp Arg Thr Asn
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His Gln Leu Glu Asn Leu Glu Ala Glu Thr Ala Pro Leu Pro
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gctgtgagag gaagaggctg gggcgcgtgg aacccgaaaa gtctgagtgc tctcagttac 180

agcctaccta gtccgcagca ggccttcagc accatggaca gcagcaccgg cccagggaac 240

accagcgact gctcagaccc cttagctcag gcaagttgct ccccagcacc tggctcctgg 300

ctcaacttgt cccacgttga tggcaaccag tccgatcc atg cgg tct gaa ccg cac 356
                                        Met Arg Ser Glu Pro His
                                          1               5

cgg gct tgg cgg gaa cga cag cct gtg ccc tca gac cgg cag ccc ttc   404
Arg Ala Trp Arg Glu Arg Gln Pro Val Pro Ser Asp Arg Gln Pro Phe
             10                  15                  20

cat ggt cac agc cat tac cat cat ggc cct cta ctc tat cgt gtg tgt   452
His Gly His Ser His Tyr His His Gly Pro Leu Leu Tyr Arg Val Cys
         25                  30                  35

agt ggg cct ctt cgg aaa ctt cct ggt cat gta tgt gat tgt aag ata   500
Ser Gly Pro Leu Arg Lys Leu Pro Gly His Val Cys Asp Cys Lys Ile
     40                  45                  50

cac caa aat gaa gac tgc cac caa cat cta cat ttt caa cct tgc tct   548
His Gln Asn Glu Asp Cys His Gln His Leu His Phe Gln Pro Cys Ser
 55                  60                  65                  70
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ggc aga cgc ctt agc gac cag tac act gcc ctt tca gag tgt caa cta   596
Gly Arg Arg Leu Ser Asp Gln Tyr Thr Ala Leu Ser Glu Cys Gln Leu
                 75                  80                  85

cct gat ggg aac atg gcc ctt cgg aac cat cct ctg caa gat cgt gat   644
Pro Asp Gly Asn Met Ala Leu Arg Asn His Pro Leu Gln Asp Arg Asp
             90                  95                 100

ctc aat aga tta cta caa cat gtt cac cag cat att cac cct ctg cac   692
Leu Asn Arg Leu Leu Gln His Val His Gln His Ile His Pro Leu His
        105                 110                 115

cat gag cgt gga ccg cta cat tgc tgt ctg cca ccc agt caa agc cct   740
His Glu Arg Gly Pro Leu His Cys Cys Leu Pro Pro Ser Gln Ser Pro
    120                 125                 130

gga ttt ccg tac ccc ccg aaa tgc caa aat cgt caa cgt ctg caa ctg   788
Gly Phe Pro Tyr Pro Pro Lys Cys Gln Asn Arg Gln Arg Leu Gln Leu
135                 140                 145                 150

gat cct ctc ttc tgc cat cgg tct gcc tgt aat gtt cat ggc aac cac   836
Asp Pro Leu Phe Cys His Arg Ser Ala Cys Asn Val His Gly Asn His
                155                 160                 165

aaa ata cag gca ggg gtc cat aga ttg cac cct cac gtt ctc cca ccc   884
Lys Ile Gln Ala Gly Val His Arg Leu His Pro His Val Leu Pro Pro
            170                 175                 180

aac ctg gta ctg gga gaa cct gct caa aat ctg tgt ctt tat ctt cgc   932
Asn Leu Val Leu Gly Glu Pro Ala Gln Asn Leu Cys Leu Tyr Leu Arg
        185                 190                 195

ttt cat cat gcc gat cct cat cat cac tgt gtg tta cgg cct gat gat   980
Phe His His Ala Asp Pro His His His Cys Val Leu Arg Pro Asp Asp
    200                 205                 210

ctt acg act caa gag cgt tcg cat gct atc ggg ctc caa aga aaa gga   1028
Leu Thr Thr Gln Glu Arg Ser His Ala Ile Gly Leu Gln Arg Lys Gly
215                 220                 225                 230

cag gaa tct gcg cag gat cac ccg gat ggt gct ggt ggt cgt ggc tgt   1076
Gln Glu Ser Ala Gln Asp His Pro Asp Gly Ala Gly Gly Arg Gly Cys
                235                 240                 245

att tat cgt ctg ctg gac ccc cat cca cat cta cgt cat cat caa agc   1124
Ile Tyr Arg Leu Leu Asp Pro His Pro His Leu Arg His His Gln Ser
            250                 255                 260

gct gat cac gat tcc aga aac cac att tca gac cgt ttc ctg gca ctt   1172
Ala Asp His Asp Ser Arg Asn His Ile Ser Asp Arg Phe Leu Ala Leu
        265                 270                 275

ctg cat tgc ttt ggg tta cac gaa cag ctg cct gaa tcc agt tct tta   1220
Leu His Cys Phe Gly Leu His Glu Gln Leu Pro Glu Ser Ser Ser Leu
```

B1 Cont

```
    280                 285                 290

cgc ctt cct gga tgaaaacttc aagcgatgct tcagagagtt ctgcatccca       1272
Arg Leu Pro Gly
295

acctcgtcca cgatcgaaca gcaaaactcc actcgagtcc gtcagaacac tagggaacat 1332

ccctccacgg ctaatacagt ggatcgaact aaccaccagc tagaaaatct ggaggcagaa 1392

actgctccat tgccctaact gggtctcaca ccatccagac cctcgctaag cttagaggcc 1452

gccatctacg tggaatcagg ttgctgtcag ggtgtgtggg aggctctggt ttcctgagaa 1512

accatctgat cctgcattca aagtcattcc tctctggcta cttcactctg cacatgagag 1572

atgctcagac tgatcaagac cagaagaaag aagagactac cggaca                1618


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Ser Asp Arg Gln Pro Phe His Gly His Ser His Tyr His His Gly Pro
             20                  25                  30

Leu Leu Tyr Arg Val Cys Ser Gly Pro Leu Arg Lys Leu Pro Gly His
         35                  40                  45

Val Cys Asp Cys Lys Ile His Gln Asn Glu Asp Cys His Gln His Leu
     50                  55                  60

His Phe Gln Pro Cys Ser Gly Arg Arg Leu Ser Asp Gln Tyr Thr Ala
 65                  70                  75                  80

Leu Ser Glu Cys Gln Leu Pro Asp Gly Asn Met Ala Leu Arg Asn His
                 85                  90                  95

Pro Leu Gln Asp Arg Asp Leu Asn Arg Leu Leu Gln His Val His Gln
            100                 105                 110

His Ile His Pro Leu His His Glu Arg Gly Pro Leu His Cys Cys Leu
        115                 120                 125

Pro Pro Ser Gln Ser Pro Gly Phe Pro Tyr Pro Pro Lys Cys Gln Asn
    130                 135                 140

Arg Gln Arg Leu Gln Leu Asp Pro Leu Phe Cys His Arg Ser Ala Cys
145                 150                 155                 160
```

B1 Cont.

```
Asn Val His Gly Asn His Lys Ile Gln Ala Gly Val His Arg Leu His
                165                 170                 175

Pro His Val Leu Pro Pro Asn Leu Val Leu Gly Glu Pro Ala Gln Asn
            180                 185                 190

Leu Cys Leu Tyr Leu Arg Phe His His Ala Asp Pro His His His Cys
        195                 200                 205

Val Leu Arg Pro Asp Asp Leu Thr Thr Gln Glu Arg Ser His Ala Ile
    210                 215                 220

Gly Leu Gln Arg Lys Gly Gln Glu Ser Ala Gln Asp His Pro Asp Gly
225                 230                 235                 240

Ala Gly Gly Arg Gly Cys Ile Tyr Arg Leu Leu Asp Pro His Pro His
                245                 250                 255

Leu Arg His His Gln Ser Ala Asp His Asp Ser Arg Asn His Ile Ser
            260                 265                 270

Asp Arg Phe Leu Ala Leu Leu His Cys Phe Gly Leu His Glu Gln Leu
        275                 280                 285

Pro Glu Ser Ser Ser Leu Arg Leu Pro Gly
    290                 295
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Val Asn Leu Ser Asp Ala Phe Pro Ser Ala Phe Pro Ser Ala Gly Ala
            20                  25                  30

Asn Ala Leu Gly Ser Pro Gly Ala Arg Ser Ala Ser Met Leu Ala Leu
        35                  40                  45

Ala Ile Ala Ile Thr Ala Leu Tyr Ser Ala Val Cys Ala Val Gly Leu
    50                  55                  60

Leu Gly Asn Val Leu Val Met Phe Gly Ile Val Arg Tyr Thr Lys Leu
65                  70                  75                  80

Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu Ala Leu Ala Asp Ala
                85                  90                  95

Leu Ala Thr Ser Thr Leu Pro Phe Gln Ser Val Asn Tyr Leu Met Glu
            100                 105                 110

Thr Trp Pro Phe Gly Glu Leu Leu Cys Lys Ala Val Leu Ser Ile Asp
        115                 120                 125

Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr Leu Thr Met Met Ser Val
    130                 135                 140

Asp Arg Tyr Ile Ala Val Cys His Pro Val Lys Ala Leu Asp Phe Arg
145                 150                 155                 160

Thr Pro Ala Lys Ala Lys Leu Ile Asn Ile Cys Ile Trp Val Leu Ala
                165                 170                 175

Ser Gly Val Gly Val Pro Ile Met Val Met Ala Val Thr Gln Pro Arg
            180                 185                 190

Asp Gly Ala Val Val Cys Met Leu Gln Phe Pro Ser Pro Ser Trp Tyr
        195                 200                 205

Trp Asp Thr Val Thr Lys Ile Cys Val Phe Ile Phe Ala Phe Val Val
    210                 215                 220

Pro Ile Leu Ile Ile Thr Val Cys Tyr Gly Leu Met Leu Leu Arg Leu
225                 230                 235                 240

Arg Ser Val Arg Leu Leu Ser Gly Ser Lys Glu Lys Asp Arg Ser Leu
                245                 250                 255

Arg Arg Ile Thr Arg Met Val Leu Val Val Val Gly Ala Phe Val Val
            260                 265                 270

Cys Trp Ala Pro Ile His Ile Phe Val Ile Val Trp Thr Leu Val Asp
        275                 280                 285
```

B1 Cont

Ile Asn Arg Arg Asp Pro Leu Val Val Ala Ala Leu His Leu Cys Ile
290 295 300

Ala Leu Gly Tyr Ala Asn Ser Ser Leu Asn Pro Val Leu Tyr Ala Phe
305 310 315 320

Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Gln Leu Cys Arg Thr Pro
325 330 335

Cys Gly Arg Gln Glu Pro Gly Ser Leu Arg Arg Pro Arg Gln Ala Thr
340 345 350

Thr Arg Glu Arg Val Thr Ala Cys Thr Pro Ser Asp Gly Pro Gly Gly
355 360 365

Gly Ala Ala Ala
370

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Ser Pro Gly Gly Cys Gly Glu Gly Leu Cys Ser Arg Gly Pro Gly Ser
20 25 30

B1 Cont

Gly Ala Ala Asp Gly Met Glu Glu Pro Gly Arg Asn Leu Ser Gln Asn
35 40 45

Gly Thr Leu Ser Glu Gly Gln Gly Ser Ala Ile Leu Ile Ser Phe Ile
50 55 60

Tyr Ser Val Val Cys Leu Val Gly Leu Cys Gly Asn Ser Met Val Ile
65 70 75 80

Tyr Val Ile Leu Arg Tyr Ala Lys Met Lys Thr Ala Thr Asn Ile Tyr
85 90 95

Ile Leu Asn Leu Ala Ile Ala Asp Glu Leu Leu Met Leu Ser Val Pro
100 105 110

Phe Leu Val Thr Ser Thr Leu Leu Arg His Trp Pro Phe Gly Ala Leu
115 120 125

Leu Cys Arg Leu Val Leu Ser Val Asp Ala Tyr Asn Met Phe Thr Ser
130 135 140

Ile Tyr Cys Leu Thr Val Leu Ser Val Asp Arg Tyr Val Ala Val Val
145 150 155 160

```
His Pro Ile Lys Ala Ala Arg Tyr Arg Arg Pro Thr Val Ala Lys Val
                165                 170                 175

Val Asn Leu Gly Val Trp Val Leu Ser Leu Leu Val Ile Leu Pro Ile
            180                 185                 190

Val Val Phe Ser Arg Thr Ala Ala Asn Ser Asp Gly Thr Val Ala Cys
        195                 200                 205

Asn Met Leu Met Pro Glu Pro Ala Gln Arg Trp Leu Val Gly Phe Val
    210                 215                 220

Leu Tyr Thr Phe Leu Met Gly Phe Leu Leu Pro Val Gly Ala Ile Cys
225                 230                 235                 240

Leu Cys Tyr Val Leu Ile Ile Ala Lys Met Arg Met Val Ala Leu Lys
                245                 250                 255

Ala Gly Trp Gln Gln Arg Lys Arg Ser Glu Arg Lys Ile Thr Leu Met
            260                 265                 270

Val Met Met Val Val Met Val Phe Val Ile Cys Trp Met Pro Phe Tyr
        275                 280                 285

Val Val Gln Leu Val Asn Val Phe Ala Glu Gln Asp Asp Ala Thr Val
    290                 295                 300

Ser Gln Leu Ser Val Ile Leu Gly Tyr Ala Asn Ser Cys Ala Asn Pro
305                 310                 315                 320

Ile Leu Tyr Gly Phe Leu Ser Asp Asn Phe Lys Arg Ser Phe Gln Arg
                325                 330                 335

Ile Leu Cys Leu Ser Trp Met Asp Asn Ala Ala Glu Glu Pro Val Asp
            340                 345                 350

Tyr Tyr Ala Thr Ala Leu Lys Ser Arg Ala Tyr Ser Val Glu Asp Phe
        355                 360                 365

Gln Pro Glu Asn Leu Glu Ser Gly Gly Val Phe Arg Asn Gly Thr Cys
    370                 375                 380

Ala Ser Arg Ile Ser Thr Leu
385                 390
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B1 Cont

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            20                  25                  30

Gln Thr Glu Pro Tyr Tyr Asp Met Thr Ser Asn Ala Val Leu Thr Phe
        35                  40                  45

Ile Tyr Phe Val Val Cys Val Val Gly Leu Cys Gly Asn Thr Leu Val
    50                  55                  60

Ile Tyr Val Ile Leu Arg Tyr Ala Lys Met Lys Thr Ile Thr Asn Ile
65                  70                  75                  80

Tyr Ile Leu Asn Leu Ala Ile Ala Asp Glu Leu Phe Met Leu Gly Leu
                85                  90                  95

Pro Phe Leu Ala Met Gln Val Ala Leu Val His Trp Pro Phe Gly Lys
            100                 105                 110

Ala Ile Cys Arg Val Val Met Thr Val Asp Gly Ile Asn Gln Phe Thr
        115                 120                 125

Ser Ile Phe Cys Leu Thr Val Met Ser Ile Asp Arg Tyr Leu Ala Val
    130                 135                 140

Val His Pro Ile Lys Ser Ala Lys Trp Arg Arg Pro Arg Thr Ala Lys
145                 150                 155                 160

Met Ile Asn Val Ala Val Trp Gly Val Ser Leu Leu Val Ile Leu Pro
                165                 170                 175

Ile Met Ile Tyr Ala Gly Leu Arg Ser Asn Gln Trp Gly Arg Ser Ser
            180                 185                 190

Cys Thr Ile Asn Trp Pro Gly Glu Ser Gly Ala Trp Tyr Thr Gly Phe
        195                 200                 205

Ile Ile Tyr Ala Phe Ile Leu Gly Phe Leu Val Pro Leu Thr Ile Ile
    210                 215                 220

Cys Leu Cys Tyr Leu Arg Ile Ile Ile Lys Val Lys Ser Ser Gly Ile
225                 230                 235                 240

Arg Val Gly Ser Ser Lys Arg Lys Lys Ser Glu Lys Lys Val Thr Arg
                245                 250                 255

Met Val Ser Ile Val Val Ala Val Phe Ile Phe Cys Trp Leu Pro Phe
            260                 265                 270

Tyr Ile Phe Asn Val Ser Ser Val Ser Val Ala Ile Ser Pro Thr Pro
        275                 280                 285

Ala Leu Lys Gly Met Phe Asp Phe Val Val Ile Leu Thr Tyr Ala Asn
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B1 cont.

290 295 300

Ser Cys Ala Asn Pro Ile Leu Tyr Ala Phe Leu Ser Asp Asn Phe Lys
305 310 315 320

Lys Ser Phe Gln Asn Val Leu Cys Leu Val Lys Val Ser Gly Ala Glu
325 330 335

Asp Gly Glu Arg Ser Asp Ser Lys Gln Asp Lys Ser Arg Leu Asn Glu
340 345 350

B'

Thr Thr Glu Thr Gln Arg Thr Leu Leu Asn Gly Asp Leu Gln Thr Ser
355 360 365

Ile